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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/926,068	12/12/2001	Hiroyuki Kawai	213035US2PCT	9193

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EXAMINER
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GENACK, MATTHEW W

ART UNIT	PAPER NUMBER
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2645

DATE MAILED: 02/27/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/926,068

Applicant(s)

KAWAI ET AL.

Examiner

Matthew W. Genack

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 12 December 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-50 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 18 December 2001.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: See Continuation Sheet.

10 February 2005

5 June 2005

Continuation of Attachment(s) 6). Other: Supplemental IDSs (Continuation Sheet).

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 50 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically, the words "A transmitting device in a mobile communication system in a receiving device in the mobile communication system..." are unclear and seemingly self-contradictory. For the purpose of examination, Claim 50 will be interpreted as best understood.

3. Claims 30-35 and 42-47 recite the phrase "the thus-determined plurality of base stations..." There is insufficient antecedent basis for this limitation in these Claims because Claims 26 and 38, upon which Claims 30-35 and 42-47 depend, respectively, recite either a single base station or a plurality of base stations. Examiner interprets Claims 30-35 and 42-47 such that the phrase in question is replaced with "the thus-determined one or plurality of base stations..."

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

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only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 1-9, 12-23, 26-31, 38-43, and 50 are rejected under 35 U.S.C. 102(e) as being anticipated by Kuo *et. al.*, U.S. Patent No. 6,542,718.

Regarding Claim 1 and 12, Kuo *et. al.* discloses a method and apparatus for terminating a burst transmission in a wireless system, said wireless system comprising a mobile unit and a base station, said burst transmission originating at said mobile unit and being received by said base station (Abstract, Column 3 Lines 16-28, Figs. 1-3). The transmission power is determined in accordance with the conditions between the mobile unit and the base station, said conditions including the degree of fading in the path between the mobile unit and the base station (Column 2 Lines 29-37, Column 7 Line 64 to Column 8 Line 7). The burst transmission is terminated or is not terminated based on a comparison involving at least one criterion pertaining to the operation of the wireless system, such as the degree of interference in the link (Abstract, Column 3 Lines 16-28, Column 8 Lines 32-41, Fig. 3).

Regarding Claims 2 and 13, the criterion for terminating a burst transmission may pertain to the degree of interference in the link, as outlined above.

Regarding Claims 3-4 and 14-15, Kuo *et. al.* discloses that the serving base station sends out a burst assignment to the mobile unit whereby the length and data rate of the burst are set; the burst transmission is initiated, and it is determined whether or not the end of the data has been reached before termination of the transmission (Column 6 Lines 24-32, Fig. 3).

Regarding Claims 5-6 and 16-17, Kuo *et. al.* discloses that upon the reception of a burst request by a base unit from a mobile station, an upper limit of a tolerable signal-to-interference ratio (SIR) is determined, and if the SIR that is maintained exceeds this limit, then the burst transmission is terminated (Column 3 Line 53 to Column 4 Line 3).

Regarding Claims 7-8, 18-19, and 20-22, Kuo *et. al.* discloses that the transmission power and the data rate are determined based on the minimum performance required for transmission (Column 4 Line 8 to Column 5 Line 6).

Regarding Claims 9 and 23, Kuo *et. al.* discloses that the SIR can be calculated from the mobile unit to two base stations that are within communication range of said mobile unit (Column 5 Line 62 to Column 6 Line 12).

Regarding Claims 26 and 38, Kuo *et. al.* discloses a method and apparatus for handling burst communications in a wireless system comprising at least one mobile unit and at least one base station (Abstract, Column 3 Lines 16-28, Figs. 1-2). There may be one or more base stations may communicate with a mobile unit (Column 5 Line 62 to Column 6 Line 12). Information is sent from the base station to the mobile unit (Column 8 Lines 16-19).

Regarding Claims 27 and 39, Kuo *et. al.* discloses the determination of a serving base station for a particular mobile unit based on the SIR between the base station and said mobile unit (Column 5 Line 62 to Column 6 Line 15).

Regarding Claims 28 and 40, a mobile unit must be within a certain range of a base station in order to be served by said base station, otherwise signals received by

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said mobile unit from said base station will be below the noise floor of the receiving circuitry of said mobile unit.

Regarding Claims 29 and 41, Kuo *et. al.* discloses that the serving base station sends out a burst assignment to the mobile unit whereby the length and data rate of the burst are set; the burst transmission is initiated, and it is determined whether or not the end of the data has been reached before termination of the transmission (Column 6 Lines 24-32, Fig. 3).

In view of the 35 U.S.C. 112 rejection above (in the case of only one base station), the limitations of Claims 30-35 and 42-47 are inherent to the invention of Kuo *et. al.*

Regarding Claim 50, in view of the 35 U.S.C. 112 rejection above, Kuo *et. al.* discloses a method and apparatus for terminating a burst transmission in a wireless system, said wireless system comprising a mobile unit and a base station, said burst transmission originating at said mobile unit and being received by said base station (Abstract, Column 3 Lines 16-28, Figs. 1-3). The transmission power is determined in accordance with the conditions between the mobile unit and the base station, said conditions including the degree of fading in the path between the mobile unit and the base station (Column 2 Lines 29-37, Column 7 Line 64 to Column 8 Line 7). The base station comprises a transceiver, said transceiver transmitting and receiver signals from the mobile unit for the purposes of determining SIR (thereby determining reception quality) and the received power level (Column 4 Lines 8-32, Fig. 2). Kuo *et. al.* discloses that upon the reception of a burst request by a base unit from a mobile

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station, an upper limit of a tolerable signal-to-interference ratio (SIR) is determined, and if the SIR that is maintained exceeds this limit, then the burst transmission is terminated (Column 3 Line 53 to Column 4 Line 3). Power control bits are transmitted from the base station to the mobile unit, said power control bits instructing the mobile unit to transmit burst signals at a certain power level (Column 4 Lines 19-29).

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 10-11 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo *et. al.* in view of Hakkinen *et. al.*, U.S. Patent No. 6,567,459.

Regarding Claims 10-11 and 24-25, Kuo *et. al.* does not expressly disclose the use of total power as a criterion in the determination of whether or not to terminate a burst transmission, nor the transmission of a plurality of burst signals in a predetermined order.

Hakkinen *et. al.* discloses a method involving power control and frequency hopping in a mobile communication system (Abstract, Column 3 Line 61 to Column 4 Line 13, Figs. 4-6). The received signal strength is compared to a preset reference power value, and the transmission power of each burst is adjusted on the basis of the power levels of the other bursts so that a lower total transmission power is maintained



(Column 5 Lines 24-54, Fig. 5). The use of frequency hopping entails transmitting successive bursts in a predetermined order of frequencies (Column 2 Lines 40-55).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Kuo *et. al.* by using total power as a criterion in the determination of whether or not to terminate a burst transmission, and by transmitting a series of burst signals in a predetermined order.

One of ordinary skill in the art would have been motivated to make this modification because the interference level in a wireless system is directly proportional to the transmitted power levels, and because the use of frequency hopping helps alleviate the effects of reflections and multipath propagation between the mobile unit and the base station (Hakkinen *et. al.*: Column 1 Line 66 to Column 2 Line 39).

8. Claims 36 and 48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo *et. al.* in view of La Porta *et. al.*, U.S. Patent No. 6,763,007.

Regarding Claims 36 and 48, Kuo *et. al.* does not expressly disclose the distribution of information among base stations.

La Porta *et. al.* discloses the forwarding of information from a first base station to a second base station, both base stations servicing the same mobile unit, said mobile unit undergoing a handoff from said first base station to said second base station (Column 25 Lines 8-20, Figs. 16a-b).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Kuo *et. al.* by providing for the redistribution of information between base stations under certain circumstances.

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One of ordinary skill in the art would have been motivated to make this modification in order to reduce disruptions when the mobile unit is handed off from one base station to another base station (La Porta *et. al.*: Column 2 Lines 9-25).

9. Claims 37 and 49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kuo *et. al.* in view of La Porta *et. al.*, further in view of Chuah, U.S. Patent No. 6,469,991.

Regarding Claims 37 and 49, neither Kuo *et. al.* nor La Porta *et. al.* expressly discloses the discarding of information, stored in a base station, that has not been transmitted to a mobile unit within a predetermined amount of time.

Chuah discloses a method for overload control in a multiple access communication system (Abstract, Column 4 Lines 46-57). Packets that have been stored at a base station for greater than a specified interval are discarded (Column 5 Lines 17-46).

At the time that the invention was made, it would have been obvious to one of ordinary skill in the art to modify the invention of Kuo *et. al.* as modified by La Porta *et. al.* by providing for the discarding of information by a base station if a predetermined amount of time elapses without said information being transmitted to a mobile unit.

One of ordinary skill in the art would have been motivated to make this modification in order to reduce congestion (Chuah: Column 5 Lines 4-26).

**Conclusion**

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew W. Genack whose telephone number is 571-272-7541. The examiner can normally be reached on FLEX.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Fan Tsang can be reached on 571-272-7547. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Matthew Genack

Examiner

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16 February 2006

  
**ELISEO RAMOS-FELICIANO**  
**PATENT EXAMINER**